

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A method for manufacturing a circuit board comprising:

~~attaching a mask film, where a squeegee cleaning part has been formed at a predetermined position, to a substrate; then~~film to a substrate in at least one squeegee area, the mask film including a first surface opposite a surface attached to the substrate;

forming a plurality of depressions in the first surface in the at least one squeegee area, each depression defining a perimeter portion, each perimeter portion having an elevation higher than an elevation of the first surface;

~~forming a through-hole; and~~through-hole through the mask film and the substrate in the at least one squeegee area;

filling conductive paste into the through-hole by using a squeezing method~~operation~~in the at least one squeegee area; and

cleaning a squeegee using the formed plurality of depressions during the squeezing operation.

2. (Currently Amended) A method for manufacturing a circuit board comprising:

~~attaching a mask film to both sides of a substrate; then~~to a substrate in at least one squeegee area, the mask film including a first surface opposite a surface attached to the substrate;

forming a squeegee cleaning part at the first surface in the at least one squeegee area, the squeegee cleaning part defining a perimeter portion having an elevation higher than an elevation of the first surface;

~~forming a through-hole; and~~through-hole through the substrate and the mask film in the at least one squeegee area;

filling conductive paste into the through-hole by using a squeezing ~~method~~, operation in the at least one squeegee area; and

cleaning a squeegee using the squeegee cleaning part during the squeezing operation,

~~wherein a~~ wherein the squeegee cleaning part is formed at a predetermined ~~position of position in~~ the mask film before the filling of the conductive paste.

3. (Currently Amended) The method for manufacturing a circuit board of claim 1,

~~wherein the predetermined position is~~ plurality of depressions are formed at a position of an unnecessary part of a product area which is not used to form a portion of the circuit board or an area outside of the of a product area of a paste-filling area of the mask film and within a printing range.

4. (Currently Amended) The method for manufacturing a circuit board of claim 1,

~~wherein the squeegee cleaning part~~ each depression is hound's tooth through-hole a through-hole formed at the in the mask film.

5. (Currently Amended) The method for manufacturing a circuit board of claim 1,

~~wherein the squeegee cleaning part~~ each depression is a no-penetrated linear groove formed at a paste-filling area of the mask film, the linear groove being formed so as not to penetrate through the substrate.

6. - 7. (Cancelled)

8. (Currently Amended) The method for manufacturing a circuit board of claim 5,

~~wherein the no-penetrated~~ forming of each linear groove of the mask film ~~is processed by~~ includes processing the linear groove using a cutting edge.

9. (Original) The method for manufacturing a circuit board of claim 8,

wherein the cutting edge is a round blade.

10. (Original) The method for manufacturing a circuit board of claim 9,

wherein the round blade is fixed to a blade-fixing section having vertically sliding function with a certain load so as not to rotate.

11. (Currently Amended) The method for manufacturing a circuit board of claim 10, ~~wherein further comprising setting a depth of the linear groove and a height and the elevation of a swollen portion~~ the perimeter portion of the squeegee cleaning part are set ~~plurality of depressions~~ by adjusting an edge angle of the round blade ~~and the~~ and a load.

12. (Currently Amended) The method for manufacturing a circuit board of claim ~~claim~~ 1,

wherein ~~the swollen~~ the elevation of the perimeter portion is not lower than ~~of each depression is above the first surface by 3μm or more.~~

13. (Previously Presented) The method for manufacturing a circuit board of claim 1, wherein the substrate is a prepreg where resin material, whose main body is thermosetting resin, is impregnated into a fabric or a nonwoven fabric, thereby forming B-stage.

14. (Currently Amended) The method for manufacturing a circuit board of claim 13, wherein aramid fabric ~~is~~ is the main body of the fabric or the nonwoven fabric.

15. (Currently Amended) The method for manufacturing a circuit board of claim 13, wherein glass fiber ~~is~~ is the main body of the fabric or the nonwoven fabric.

16. (Currently Amended) The method for manufacturing a circuit board of claim 1, wherein:

the filling of the conductive paste into the through-hole by using the squeezing ~~method~~ operation comprises:

filling the conductive paste into the through-hole by ~~reciprocating~~ reciprocating the squeegee on the circuit board; and

the cleaning of the squeegee using the formed plurality of depressions during the squeezing operation includes cleaning an edge of the squeegee by using the squeegee-cleaning part plurality of depressions.

17. (Withdrawn) An apparatus for manufacturing a circuit board comprising:

a transporting means for transporting a substrate;

supplying means, which are placed above and below the transporting means, for supplying mask films;

a laminate roll; and

a groove processing section, which is placed behind the laminate roll and above the transporting means, for processing a groove at the mask film.

18. (Withdrawn) The apparatus for manufacturing a circuit board of claim 17,

wherein the groove processing section is formed of a blade-fixing section including a blade with a certain range of an edge angle and a blade-fixing-section-installing unit having a sliding section,

wherein the blade-fixing section is capable of sliding up and down at the sliding section of the blade-fixing-section-installing unit.

19. (Withdrawn) The apparatus for manufacturing a circuit board of claim 18,

wherein the blade is a round blade, and fixed to the blade-fixing section so as not to rotate.

20. (Withdrawn) The apparatus for manufacturing a circuit board of claim 17,

wherein the groove processing section placed above the transporting means is capable of being positioned and fixed.

21. (Withdrawn) The apparatus for manufacturing a circuit board of claim 17, further comprising:

a backing roll directly under the groove processing section and under the transporting means.

22. (Withdrawn) The apparatus for manufacturing a circuit board of claim 18, wherein the edge angle of the blade ranges 30-90°.

23. (Currently Amended) The method for manufacturing a circuit board of claim 2, wherein the predetermined position is a position ~~of an unnecessary part of a product~~ areawhich is not used to form a portion of the circuit board or an area outside of theof a product area of a paste-filling area of the mask film and within a printing range.

24. (Currently Amended) The method for manufacturing a circuit board of claim 2, wherein the squeegee cleaning part is a ~~no-penetrated-linear~~ groove formed at a paste-filling area of the mask film, the linear groove being formed so as not to penetrate through the substrate.

25. (Currently Amended) The method for manufacturing a circuit board of claim 24, wherein the squeegee cleaning part is a plurality of the ~~no-penetrated-linear~~ groovegrooves.

26. (Cancelled)

27. (Currently Amended) The method for manufacturing a circuit board of claim 24, wherein the ~~no-penetrated~~ forming of the linear groove of the mask film ~~is processed by~~ includes processing the linear groove using a cutting edge.

28. (Previously Presented) The method for manufacturing a circuit board of claim 27, wherein the cutting edge is a round blade.

29. (Previously Presented) The method for manufacturing a circuit board of claim 28, wherein the round blade is fixed to a blade-fixing section having vertically sliding function with a certain load so as not to rotate.

30. (Currently Amended) The method for manufacturing a circuit board of claim 29, ~~wherein further comprising setting a depth of the linear groove and a height of a swollen the elevation of the perimeter portion of the squeegee cleaning part are set by adjusting an edge angle of the round blade and the load.~~

31. (Currently Amended) The method for manufacturing a circuit board of claim ~~26~~claim 2,

~~wherein the swollen elevation of the perimeter portion is not lower than is above the first surface by 3μm or more.~~

32. (Previously Presented) The method for manufacturing a circuit board of claim 2, wherein the substrate is a prepreg where resin material, whose main body is thermosetting resin, is impregnated into a fabric or a nonwoven fabric, thereby forming B-stage.

33. (Currently Amended) The method for manufacturing a circuit board of claim 32, wherein aramid fabric ~~is~~ is the main body of the fabric or the nonwoven fabric.

34. (Previously Presented) The method for manufacturing a circuit board of claim 32, wherein glass fiber ~~is~~ is the main body of the fabric or the nonwoven fabric.

35. (Currently Amended) The method for manufacturing a circuit board of claim 2, wherein the filling of the conductive paste into the through-hole by using the squeezing ~~method~~ operation comprises:

filling the conductive paste into the through-hole by ~~reciprocating~~ reciprocating the squeegee on the circuit board; and

the cleaning of the squeegee includes cleaning an edge of the squeegee by using the squeegee cleaning part.